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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,100	02/08/2002	Koyu Yamanoi	TIJ-32715	9460
23494	7590	10/06/2004	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			CHOW, LIXI	
			ART UNIT	PAPER NUMBER
			2652	

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/072,100

Applicant(s)

YAMANOI ET AL.

Examiner

Lixi Chow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. Figures 5-11d should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In claims 1, 6, 10, and 14-17, the limitations "first attenuation rate", "second attenuation rate", "third attenuation rate", and "fourth attenuation rate" and in claims 3, 5, 8, 9, 11, 12, 13, 18, and 20, the various first to fourth "amplifier", which require

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enablement of the amplifiers 17-20 related to control signals Sc1-Sc4 in figure 2 are not adequately disclosed. The disclosure does not specify what is the attenuation rate and amplification amount. There is reference to these being associated with the type of record medium; however, the disclosure does not provide waveform diagrams for each of the signals Sdt, Ste, S5, Smt, Sbe, and S4 in order to provide guidance to one of ordinary skill as to what gain and/or attenuation would be used in order to make and use the invention. The signals are referred to in Fig. 2, but there is no further detail that shows the relationship of each listed signals. Therefore, there would be undue experimentation as to how to make and use the invention.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 5, 6, 7, 9, 11, 14, 17, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art in view of Kumagai, U.S. patent No. 6,288,988.

Referring to claim 1:

The admitted art in Figs. 5-11d of applicant's disclosure in the optical disc reproducing apparatus including detecting mirror signal discloses, a mirror detection signal generator art, which generates a mirror detection signal from an RF signal

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corresponding the reflected light from a recording medium, comprises the following parts:

- a first peak-hold circuit that holds the bottom level of said RF signal at a first attenuation rate and outputs a bottom-hold signal (see Fig. 5, elements 103, 106);

- a second peak-hold circuit that holds the top level of said RF signal at a second attenuation rate and outputs a first envelope signal (see Fig. 5, elements 102, 106);

- a third peak-hold circuit that holds the bottom level of said RF signal and outputs a second envelope signal (see Fig. 5, element 104);

- a first reference signal generator that outputs the first reference signal generated on the basis of said bottom-hold signal and said first envelope signal (see Fig. 5, element 107);

- a first comparator that compares said first reference signal with said second envelope signal and generates said mirror detection signal (see Fig. 5, element 109).

The admitted art does not show a third attenuation rate within the third peak-hold circuit.

Kumagai, in the optical disc reproducing apparatus including detecting mirror signal art, discloses in figure 10, shows the third attenuation rate (AMP providing output signal to level comparison circuit 56 that provides mirror signal MIRR, which enables use with the type of optical recording medium).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to include a third attenuation rate within the third peak-hold circuit

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of the admitted art as disclosed by Kumagai for use in mirror signal detection, in order to make the admitted art circuit usable with different types of optical recording medium.

Referring to claim 2:

The admitted art in Fig. 5-11d of applicant's disclosure discloses first reference signal generator comprises a first voltage divider that divides the voltage of said bottom-hold signal and said first envelope signal (see Fig. 5, element 106).

Referring to claims 5 and 11:

Kumagai discloses a mirror detection circuit that includes a filter that performs a prescribed signal processing for said second envelope signal, and a second amplifier that amplifies said second envelope signal at an amplification rate corresponding to the type of recording medium (see Fig. 10, elements 51 and 52, respectively).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use a filter and an amplifier in the admitted art as taught by Kumagai. One of ordinary skill would have been motivated to do this, so that the LPF would remove the high-frequency region of the RF signal and amplified by gain control amplifier with a gain to enable use with different types of optical disc.

Referring to claims 6, 14, and 17:

The admitted art in Fig. 5-11d of applicant's disclosure discloses a fourth peak-hold circuit that holds the top level of said RF signal at a fourth attenuation rate and outputs a top-hold signal (see Fig. 5, element 101);

a second reference signal generator that outputs the second reference signal generated on the basis of said top-hold signal and said bottom-hold signal (see Fig. 5, element 105);

a second comparator that compares said second reference signal and said first envelope signal and generates a defect detection signal (see Fig. 5, element 108).

Referring to claims 7 and 19:

The admitted art in Fig. 5-11d of applicant's disclosure discloses a second reference signal generator comprises a second voltage divider that divides the voltage of said top-hold signal and said bottom-hold signal (see Fig. 5, element 105).

Referring to claims 9 and 20:

Kumagai in the obvious combination above teaches a mirror detection circuit that includes an amplifier that amplifies said first envelope signal at an amplification rate corresponding to the type of recording medium (see Fig. 10, element 52).

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fuji et al, Imakawa, Kubogata, Lee et al, Minakuchi, and Iimura are cited because they show gain control and peak and bottom-hold circuits.

7. No statement will be made regarding the allowability of claims 3, 4, 8, 10, 12, 13, 15, 16, and 18, due to the § 112, 1st paragraph rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lixi Chow. The examiner can normally be reached at 703-308-1554 on flex time.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 703-305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LC 9/30/04

A handwritten signature in black ink, appearing to read 'W. R. Young', with a long horizontal stroke extending to the right.

W. R. YOUNG
PRIMARY EXAMINER